

## Industrial Aluminum PPC-53 Series

## PPC-5350

## Intel® Celeron® M/Pentium® M Processor with 15" TFT LCD and Touchscreen



## Features

1. 15" TFT LCD touch Panel PC
2. New upgrade model from PPC-5350/A300 model
3. Aluminum die-casting IP 65
4. Intel® Celeron® M mobile CPU with 400 MHz FSB supported
5. Two DDR2 SO DIMM 667 MHz SDRAM DIMM support up to 2GB
6. Two SATA connectors supported by ICH6M
7. Dual PCIe Gigabit Ethernet support
8. High speed express card and PCIe mini card support
9. Optional 802.11 b/g PCIe mini wireless kit



## Specifications

|                        |                            | PPC-5350GS/A300  | PPC-5350GS/A311   |
|------------------------|----------------------------|--|---|
| Display                | LCD Size                   | 15"  |   |
|                        | Max Resolution             | 1024(W) x 768(H)   |   |
|                        | Brightness (cd/m2)         | 350  |   |
|                        | Contrast Ratio             | 700:1  |   |
|                        | LCD Color                  | 16.2M  |   |
|                        | Pixel Pitch (mm)           | 0.297(H) x 0.297(V)  |   |
|                        | Viewing Angle (H-V)        | 140/125  |   |
|                        | Backlight MTBF (hrs)       | 50,000   |   |
| Motherboard            | SBC Model                  | A300   | A311  |
|                        | CPU                        | Socket 479 Intel® Pentium® 4, Celeron M with 400MHz(max.) FSB<br>1 GHz ULV Intel Celeron zero cache CPU  | Socket 479 Intel® Pentium® M, Celeron M with 400/533MHz(max.) FSB<br>1 GHz ULV Intel Celeron zero cache CPU |
|                        | Chipset                    | Intel 855GME + ICH4  | 910GMLE + ICH6M   |
|                        | RAM                        | Supports two 266/333MHz DDR DIMM (2GB Max.)  | Supports two 400/533MHz DDR2 DIMM (2GB Max.)  |
| I/O Ports and Switches |                            | 4 x RS232 COM Port   | 4 x RS232 COM Port  |
|                        |                            | 1 x RS-232/422/485 Port  | 1 x RS-232/422/485 Port   |
|                        |                            | 2 x RJ-45 for LAN Port   | 2 x RJ-45 for LAN Port  |
|                        |                            | 4 x USB 2.0  | 4 x USB 2.0   |
|                        |                            | 1 x VGA Port   | 1 x VGA Port  |
|                        |                            | 1 x Audio (Line-in, Line-out, MIC-in)  | 1 x Audio (Line-in, Line-out, MIC-in)   |
|                        |                            | 1 x PS/2 (KB/MS)   | 1 x PS/2 (KB/MS)  |
|                        |                            | 1 x Power Switch   | 1 x Power Switch  |
|                        |                            | 1 x AT / ATX Switch  | 1 x AT / ATX Switch   |
|                        |                            | 1 x DVI port   | 1 x DVI port  |
| Driver Bay             | HDD Driver Bay             | 1 x 2.5" SATA/IDE HDD bay with anti-shook  | 1 x 2.5" SATA HDD bay with anti-shook   |
|                        | SSD                        | CF Type II   |   |
|                        | CD-ROM Driver Bay          | Slim Type CD-ROM Bay   |   |
| Extension Slot         |                            | 1 x PCI slot   | 1 x PCI slot<br>1 x PCIe mini card  |
| Physical               | Construction Front Panel   | Aluminum   |   |
|                        | Construction Chasis        | Heavy-duty Steel   |   |
|                        | Mounting                   | Panel, Wall, Rack, Stand and Arm<br>VESA 100mm x 100mm   |   |
|                        | Front Panel Color          | Silver (Pantone 8001C)   |   |
|                        | Dimension (WxHxD) (mm)     | 410 x 309 x 110.5  |   |
|                        | Net Gross Weight           | 8 Kg / 12 Kg   | 7 Kg / 11 Kg  |
| Environment            | Operation Temperature (°C) | -10°C ~50°C  |   |
|                        | Storage Temperature (°C)   | -20°C ~60°C  |   |
|                        | Vibration                  | 5~17Hz, 0.1" double amplitude displacement<br>17~640Hz, 1.5G acceleration peak to peak   |   |
|                        | Shoock                     | 10G acceleration part to part (11ms)   |   |
| Touch Screen           |                            | Resistive Type 5-Wire with RS-232 interface  |   |
| Power Supply           | ATX AC-Input               | AC Input ATX Power Supply<br>- P/N: ACE-4518AP-RS<br>- 180W Power Supply<br>- Input: 90VAC~240VAC, 50/60Hz<br>- Output(max.): 3.3A@16.8A, 5V@12A, 12V@10A, -12V@0.8A |   |
|                        | ATX DC-Input               | DC Input ATX Power Supply<br>- P/N: ACE-815C-RS<br>- 100W Power Supply<br>- Input: 24VDC, 50/60Hz<br>- Output(max.): 3.3A@4A, 5V@13A, 12V@2.5A, -12V@0.3A            |   |
| Front Panel Protection |                            | IP65 Compliant   |   |
| Certificate            |                            | Meets CE, FCC  |   |
| Ethernet               |                            | Dual Realtek RTL8110S GbE Controllers  |   |
| Audio                  |                            | AC' 97 2.3 Realtek ALC 655   | AC' 97 2.3 Realtek ALC 655  |

## New PPC-5350 Features

Serial ATA is the next -generation internal storage interface designed to replace parallel ATA technology. Serial ATA was introduced at **150Mbytes/sec.** New PPC-5350/A311 supports two native SATA ports without additional driver requirement which is highly increasing device compatibility in all different OS

### Native serial ATA interface support

**NEW**



PPC-5350/A311

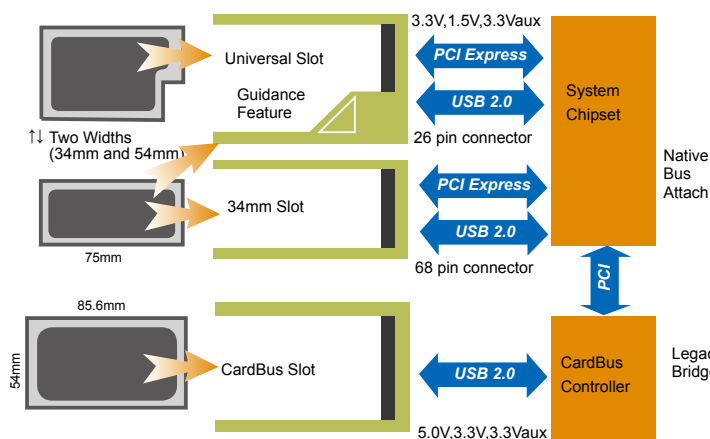


PPC-5350/A300

## New ExpressCard Features

**ExpressCard** is a hardware standard replacing PC cards (also known as PCMCIA cards), both developed by the Personal Computer Memory Card International Association (PCMCIA). The host device supports both PCI Express and USB 2.0 connectivity through the Express Card slot, and each card uses whichever the designer feels most appropriate to the task. The cards are hot-pluggable.

### ExpressCard Technology vs. CardBus



| ExpressCard Modules                    | Brand   |
|--|---|
| FireWire                               | Abcom, Addonics, Belkin, SIIG   |
| Memory Card Adapter                    | Atech Flash, Buffalo, Delkin, Griffin, Hagiwara   |
| TV tuners                              | AverMedia, HP   |
| WLAN/WWAN/Smart Card/SATA              | Abcom, Addonics, Belkin, SIIG, Atech Flash, Buffalo, Delkin, Gemplus, Hagiwara, Novatel, Rotoc, SCM |
| Bluetooth device                       | Newton  |
| Expansion chassis and docking stations | Belkin  |
| Remote control devices                 | HP, Interlink   |

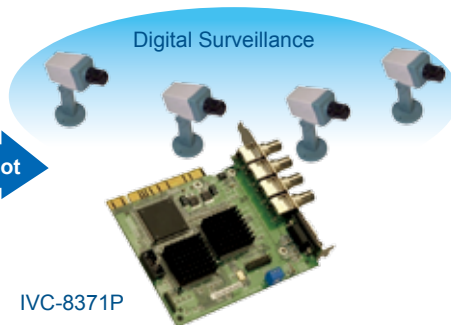
## New PPC-5350/A311 Expansions

**Flexible extension interface: 1 x PCI slot, 1 x PCIe mini slot, 1 x ExpressCard**

PPC-5350 provides most rich expansion interfaces, including one standard 32 bit PCI slot for various PCI add-on card, one PCIe mini card socket for small form factor extender like wireless module, and one express slot for expansion.



PPC-5350GS



IVC-8371P



PCI



## New PPC-5350/A311 Placement

All new PPC-5350/A311 system board is designed with native SATA and PCIe interfaces supported from chipset directly with no extra driver requirement. All internal connector placements are redesigned for easy installation and better internal air flow inside.



PPC-5350/A311

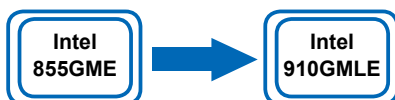


PPC-5350/A300

| Model         | PPC-5350GS/A311  | PPC-5350GS/A300  |
|---------------|--|--|
| CPU           | Socket 479 with 400/533 MHz FSB Intel® Pentium® M Processor Intel® Celeron® M processor                    | Socket 479 400 MHz FSB Intel® Pentium® M Processor Intel® Celeron® M processor                                   |
| NB            | Mobile Intel® 910GML Express Chipset   | Mobile Intel® 855GME Express Chipset   |
| SB            | ICH6M  | ICH4   |
| Display       | CRT integrated in 910GML -- D-SUB CONNECTOR<br>CH7307C -- DVI CONNECTOR<br>910GML for LVDS Panel Interface | CRT integrated in 855GME -- D-SUB CONNECTOR<br>Silicon image -- DVI CONNECTOR<br>855GME for LVDS Panel Interface |
| Memory        | Two DDR2 667MHz, Up to 2GB   | Two DDR 266/333MHz, Up to 2GB  |
| SSD           | CF Type II   | CF Type II   |
| Audio         | AC'97 codec with Realtek ALC655  | Realtek ALC655 with AC'97 codec  |
| LAN           | Dual PCIe Realtek RTL8111CP GbE chipsets   | Dual RealTek RTL8110S GbE chipsets   |
| COM           | 6 COM ports(5x RS-232, 1x RS-232/422/485)  | 6 COM ports(5x RS-232, 1x RS-232/422/485)  |
| USB 2.0       | 8x USB 2.0<br>(4 by pin header, 2 for external, 2 for Express card and Mini PCIe)                          | 6x USB 2.0   |
| IDE           | 1 X IDE 40 pin connector.<br>(From ICH6M) 1 x CF type II (From ICH6M)                                      | 2 X IDE 40 pin connector. 1 x CF type II   |
| SATA          | 2 x SATA connector by ICH6M  | 2 x SATA connector by ALIM5283   |
| FAN connector | 4pin Smart fan   | 3pin fan   |
| Expansion     | ExpressCard x 1<br>PCI x1<br>PCIe mini card on board x1  | PCMCIA X 1<br>PCI x1<br>mini PCI x1  |

Transition to  
New Generation

## Upgrading Performance



Featuring the Intel® Graphics Media Accelerator 900, the 910GML chipset in PPC-5350/A311 enables 2x the graphics performance of the previous generation of platforms based on the Intel® 855GME chipset in PPC-5350/A300.

### Extra CPU support list :

| Package Type | Brand Name | CPU No.   | Clock Speed | FSB (MHz) | L2 | TDP | Chipset |
|--------------|------------|-----------|-------------|-----------|----|-----|---------|
| Socket 479   | 90nm       | Pentium M | 780         | 2.26G     | 2M | 27W | 915GME  |
|              |            |           | 770         | 2.13G     | 2M | 27W |         |
|              |            |           | 760         | 2G        | 2M | 27W |         |
|              |            |           | 755         | 2G        | 2M | 27W |         |
|              |            |           | 750         | 1.86G     | 2M | 27W |         |
|              |            |           | 740         | 1.73G     | 2M | 27W |         |
|              |            |           | 730         | 1.6G      | 2M | 27W |         |

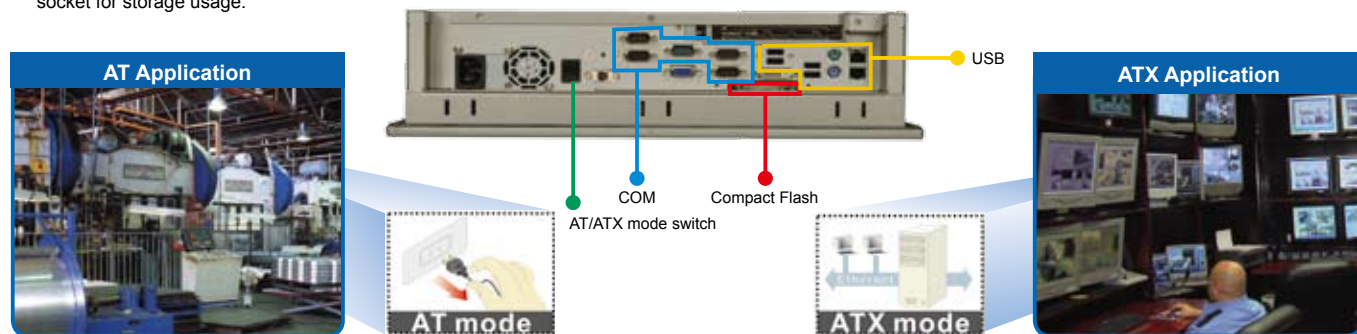
### Comparison Graphic Core

| Chipset          | 910GML           | 855GME           |
|------------------|------------------|------------------|
| DirectX Support  | 9                | 7.1              |
| OpenGL Support   | 1.4              | 1.3              |
| Core Clock       | 333/320 MHz      | 250 MHz          |
|                  | 200 MHz          | 200 MHz          |
|                  | 166/160 MHz      | 166 MHz          |
|                  | 133 MHz          | 133 MHz          |
| Pixel Pipes      | 4                | 1                |
| Display Support  | Dual Independent | Dual Independent |
| Video Memory     | DVMT 3.0         | DVMT 2.0         |
| Memory Bandwidth | 8.5 GB/sec       | 2.6 GB/sec       |
| Max. Resolution  | QXGA 75 Hz       | QXGA 60 Hz       |
|                  | 2048x1535        | 2048x1535        |

| Features / Options | DDR                | DDR2                         | DDR2 Advantages  |
|--------------------|--------------------|------------------------------|--|
| Voltage            | 2.5V / 2.5V I/O    | 1.8V / 1.8V I/O              | Reduces memory system power demand   |
| Densities          | 128MB-1GB          | 256MB-4GB                    | High-density components enable large memory subsystems                         |
| Speed (data pin)   | 200, 266, 333, 400 | 400, 533, 667                | Migration to higher speed IO   |
| Read Latency       | 2, 2.5, 3 CLK      | CL + AL / CL = (3,4,5)       | Eliminating one-half clock helps speed internal DRAM logic and improves yields |
| Additive Latency   | N/A                | AL options (0,1,2,3,4)       | Mainly used in Server applications to improve command bus efficiency           |
| Write Latency      | 1 clock            | read latency-1               | improves command bus efficiency  |
| Data Strobes       | Single-ended       | Differential or single-ended | Improves system timing margin by reducing strobe cross-talk                    |

## Rich I/O in PPC-5350/A311

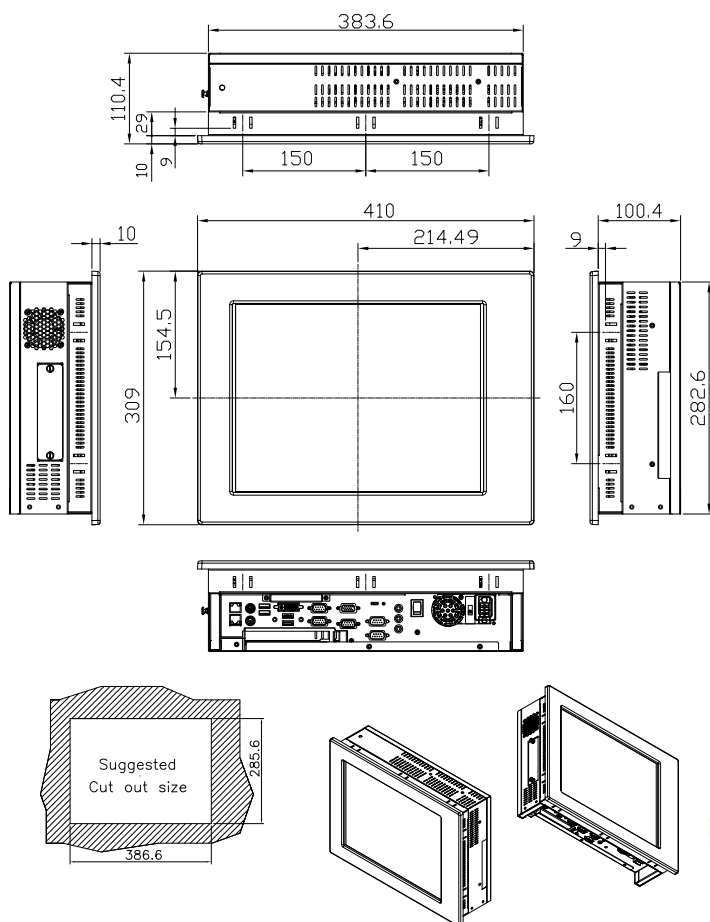
**Fully I/O function support: 6 x COM (One for Touch screen), 4 x USB, 1 x CF socket** PPC-5350 combines multiple traditional UART ports (five RS-232 ports and one RS-232/422/485 port) and four most popular USB 2.0 ports for IO extension. Additionally, PPC-5350 also support one CompactFlash® Type II socket for storage usage.



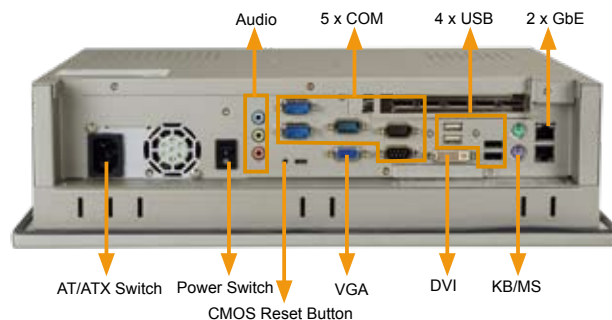
AT power mode allows multiple panel PCs automatically start when the central power unit is connected.

The ATX power mode allows the panel PCs to be turned on/off remotely via network.

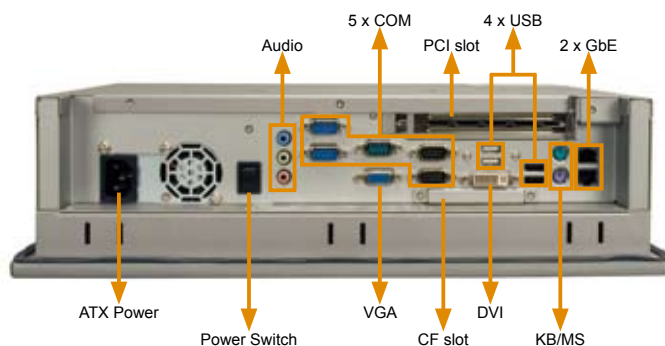
## Dimensions (Unit: mm)



### ▼ PPC-5350GS/A311



### ▼ PPC-5350GS/A300



## Packing List

| Description                        | Part Number                       | Amount |
|------------------------------------|-----------------------------------|--------|
| Slim Type CD-ROM Packing           | 19B00-000032-RS                   | 1      |
| HDD IDE Cable                      | 32200-069900-RS (PPC-5350GS/A300) | 1      |
| HDD SATA Cable                     | 32000-077000-RS                   | 1      |
| Screw Kit                          | 19600-000078-RS                   | 1      |
| Jumper Pack                        | 33100-000079-RS                   | 1      |
| Power Cord                         | 32000-000002-RS                   | 1      |
| Panel Mounting Kit                 | PK-170M                           | 1      |
| Wall Mounting Kit                  | WK-190MS-R10                      | 1      |
| Touch Screen Driver CD / Touch Pen |                                   | 1      |
| User Manual & Driver CD            |                                   | 1      |

## Options

|                    |              |
|--------------------|--------------|
| Panel Mounting Kit | PK-170M      |
| Wall Mounting Kit  | WK-190MS-R10 |
| Rack mount kits    | RK-150MS-R10 |
| LCD Monitor Arm    | ARM-31-RS    |
| LCD Monitor Stand  | STAND-210-RS |

## Ordering Information

|   |  |   |
|---|--|---|
| Intel® Celeron® M 1GHz Platform           | PPC-5350GS-R11/A300-1GZ/T-R/512MB        | 15" 350 cd/m² XGA TFT LCD panel PC with A300,ULV Celeron M 1GHz CPU,512MB RAM and Touch screen,ACE-4518AP,RoHS  |
|   | PPC-5350GS-R11/A300-CM370/T-R/1GB        | 15" 350 cd/m² XGA TFT LCD panel PC with A300 main board,CPU Celeron M 1.5Ghz,1GB RAM and Touch screen,ACE-4518AP,RoHS   |
|   | PPC-5350GS/A300-1GZ/ACE-815C/T-R/512MB   | 15" 350 cd/m² XGA TFT LCD panel PC with A300,ULV Celeron M 1GHz CPU,512MB RAM,Touch screen and ACE-815C (24VDC input,100W power supply),RoHS                            |
|   | PPC-5350GS/A300-CM370/ACE-815C/T-R/1GB   | 15" 350 cd/m² XGA TFT LCD panel PC with A300 main board,CPU Celeron M 1.5Ghz,1GB RAM,Touch screen and ACE-815C (24VDC input,100W power supply),RoHS                     |
| Intel® Celeron® M 1GHz Zero Cach Platform | PPC-5350GS/A311-1GZ/4518AP/T-R/1GB-R10   | 15" 350 cd/m² XGA panel PC with A311 system board,Intel® Celeron M 1GHz Zero Cache, 1GB RAM,Touch screen and ATX AC input power supply,ACE-4518AP                       |
|   | PPC-5350GS/A311-CM370/4518AP/T-R/1GB-R10 | 15" 350 cd/m² XGA panel PC with A311 system board, Intel® Celeron M 1.5GHz,1GB RAM, Touch screen and ATX AC input power supply,ACE-4518AP                               |
|   | PPC-5350GSD/A311-1GZ/815C/T-R/1GB-R10    | 15" 350 cd/m² XGA panel PC with A311 system board,Intel® Celeron®M 1GHz Zero Cache, 1GB RAM,Touch screen and ATX DC input Power supply,ACE-815C(24VDC input. 100W),RoHS |
|   | PPC-5350GSD/A311-CM370/815C/T-R/1GB-R10  | 15" 350 cd/m² XGA panel PC with A311 system board, Intel® Celeron®M 1.5GHz, 1GB RAM, Touch screen and ATX DC input Power supply, ACE-815C (24VDC input. 100W ) ,RoHS    |